

Gendered Apico-Dental Variations in The Pronunciation Of /t/ and /l/: A Sociophonetic Case Study

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ABSTRACT

This case study, which employs a qualitative research approach, seeks to explore the reasons behind the pronunciation of the phonemes /t/ and /l/ as apico-dental by some women in both English and Indonesian. The research specifically examines these phonetic variations among 43 second-year students from UAI, who are between the ages of 18 and 20 with a particular focus on how these variations relate to gender. It is significant to spot that the study excludes individuals with speech disorders such as slurred speech or dysarthria, concentrating instead on participants with standard articulatory functions. The participants included 22 students from class IG22A (8 males, 14 females) and 21 from class IG22B (8 males, 13 females). The study methodology, which uses a descriptive qualitative approach, is in line with the research themes. In particular, it makes use of a case study research design and combines descriptive quantification to it. Results revealed that only female participants exhibited apico-dental pronunciation of these phonemes, with no male participants showing this variation. Specifically, six women pronounced /t/ apico-dentally at the end of words like "bat" and "pahat," while ini word "tour" pronounced /l/ similarly at the end of words like "peel" and "apel". Despite initial unfamiliarity with the correct pronunciation, participants quickly adapted after receiving corrections, suggesting the apico-dental articulation was habitual rather than a difficulty or a deliberate attempt to express sensuality. However, This Study wants to describe, in-depth study links the tongue, in contact with teeth, movements to sensuality, indicating potential subconscious influences.

Keywords: *Apico-dental; Phonetic Variations; Sensuality.*

INTRODUCTION

Differences between men and women extend beyond mere biological distinctions to encompass linguistic variations as well. Research indicates that either men or women exhibit dissimilar stages of proficiency in articulating sounds in foreign languages Bryła-Cruz, (2021). For instance, a research focusing on Persian speakers of English revealed that women generally demonstrated a higher fluency in producing consonant sounds compared to men Asad et al., (2021). However, their advantage in vowel pronunciation was relatively minor.

Another study explored whether gender influences the pronunciation of stress patterns in English Al–Thalab & Abdalla, (2021) utilized Praat, a phonetic analysis tool, to examine whether gender affects the accuracy of English lexical stress. Their findings suggest that the impact of ethnic and linguistic backgrounds is more significant than gender in determining stress pronunciation accuracy. Nevertheless, distinct gender differences are observed in the pronunciation of suprasegmental features such as tones, a notion supported by earlier research conducted by Ohara, (2001) on Japanese speakers and Biemans, (1998) on Dutch speakers.

Phonetic Features and Sensuality Perception

The process of apicodental articulation produces sounds like [t], [d], and [n] when the tongue's apex touches or approaches the upper teeth. Due to its close and gentle character, this very particular interaction produces a subtle bodily sense for both the speaker and the listener that, in some situations, may be connected to subtleties of sensuality.

The expression of delicate or sensuous nuances in oral communication is strengthened by apico-dental sounds, which frequently sound cleaner, clearer, and more controlled.

Smoothness and Clarity of Expression

Apico-dental articulation requires precise tongue movement, resulting in sounds that the listener can clearly detect. This precision is crucial for communication that aims to emphasize specific details, like sensuality, without becoming overly aggressive or abrasive.

A more deliberate tone allows the speaker to modulate the emotional expression and voice intensity, keeping the message gentle and non-aggressive.

Control of Tone and Emotion

Apico-dental articulation's careful use of tone (pitch and loudness control) keeps the message sounding professional and not overdone, ensuring that the sensuous sensation created stays within acceptable bounds and does not come off as vulgar.

Richer emotional expression and more nuanced nuances are also made possible by controlled changes in speech cadence and tone, which is in line with communication goals that prioritize intimacy or nuance.

Social and Aesthetic Background

Depending on the demands of the story or message to be delivered, careful tone exploration of apico-dental articulation can be employed in vocal art, theater, or public speaking to produce a more appealing, sensual, or soothing voice character Suhery et al., (2024).

In terms of social interaction, a cautious approach to sensuality exploration through this articulation can help prevent possible norm violations or misunderstandings, upholding communication ethics.

Ohara's investigation into Japanese and English utterances revealed that women tend to produce speech at a higher pitch in Japanese than in English, whereas men's pitch remains relatively consistent across both languages. Ohara attributed this phenomenon to social norms prevalent in Japanese society rather than to biological

factors. This observation led to the conclusion that the higher pitch frequency among women is more a result of natural biological processes rather than purely social constructs. This biological explanation is grounded in the anatomical differences between men and women, such as men having longer vocal tracts and larger larynxes compared to women. A similar concept applies to children, who also have higher pitch frequencies compared to adults. Such differences in pitch have given rise to stereotypes, exemplified by phrases like "don't pitch like a girl" Balachandra et al., (2019).

From a sociolinguistic standpoint, the distinction between men and women transcends mere phonetic variations. It is often observed that women, on average, tend to speak more formally than men, with distinct patterns in greetings and conversational styles Suhery et al., (2022).

In Cultural and Social Aspects, identification and Solidarity: Language is a common tool used by both men and women to express group identification and solidarity. As a reflection of larger cultural norms and expectations, these distinctions are upheld not only for communication purposes but also to strengthen social ties and group membership. Social Status and Education: Social status and educational opportunities also influence how people use language differently. Linguistic differences are typically more noticeable in communities where gender-based educational gaps exist. Women frequently exhibit increased sensitivity to linguistic conventions when educational opportunities are equalized, maybe as a result of societal expectations around status and politeness Suhery et al., (2025).

This observation aligns with Coulmas, (2005) perspective, which posits that variations in speech between genders are largely influenced by social and cultural dynamics rather than just physiological differences. Therefore, in sociolinguistics, the concept of gender is considered a more relevant factor than biological sex, as it reflects sociocultural behaviors rather than anatomical distinctions Holmes, (2001); Wardhaugh & Fuller, (2021).

When examining gender differences in pronunciation, it is crucial to consider sociolinguistic factors because they reveal how social conditions impact speech patterns. For example, research highlights the link between phonetic differences and social or economic class distinctions. The -ing suffix, associated with high social status, is considered more prestigious, while the -in' suffix is viewed as a marker of lower socioeconomic status. Analysis shows that both lower-class men and women frequently use the -in' form compared to their upper-class counterparts. Within the same social class, women use the -in' variant less often than men (Fasold & Connor-Linton, 2014).

Evidence supports the existence of both biological and sociological bases for gender-related pronunciation differences. Munson & Babel, (2019) confirm that sex and gender differences manifest in phonetic variations that define both categories. Their work underscores the pronounced impact of these differences on how spoken language is perceived.

This study aims to investigate a specific phenomenon where a few women produce the phoneme /t/ and /l/ with an apico-dental articulation—where the tongue tip is

placed between the upper and lower teeth—contrasting with the apico-alveolar and apico-palatal articulations typically used by men.

Apart from explaining the above phenomenon phonetically/phonologically, this research will also explore women's sensuality in pronouncing these two phonemes. So this research aims to explore how the pronunciation of /t/ and /l/ by women, through their unique articulation, can convey various sensual attributes. Thus, the way people speak a language is not just a medium of communication but also a tool of expression that is capable of conveying a number of emotions and sensations, both covertly and openly.

Ultimately, the findings of this research may have broader implications for fields other than linguistics, such as gender and communication studies. By describing and analyzing the way women use apico-dental in supposedly alveolar pronunciations, it will be revealed that there are complex ways in which phonemes contribute to the conveying of sensuality.

The approach adopted in this analysis will be descriptive and theoretical, with a strong emphasis on minimizing gender bias. Gender bias within the field of linguistics has emerged as a significant area of concern in recent academic discussions. For instance, Kotek et al., (2021) explored linguistic textbooks from the past two decades to identify instances of gender bias, revealing how historical texts reflect and perpetuate gendered assumptions. Similarly, Menegatti & Rubini, (2017) highlighted the subtle presence of gender bias embedded in grammatical rules and syntactic structures across various languages, demonstrating how such biases can influence linguistic theory and practice.

METHOD

The study methodology, which uses a descriptive qualitative approach, is in line with the research themes. In particular, it makes use of a case study research design and combines descriptive quantification to it. A methodological approach known as qualitative research entails a methodical examination of a social or human issue in order to develop a comprehensive understanding of it Suhery et al., (2023). A case study is an in-depth, detailed examination of a specific subject such as an individual, group, event, organization, or phenomenon within its real-world context Suhery et al., (2024). This research method is widely used across disciplines like social sciences, education, business, medicine, and psychology to explore and understand complex issues that cannot be fully captured by broader, more quantitative approaches. Considering the research object, location, and data source, this study is classified as a case study. According to Schoch, a case study is a social science research method designed to answer "how" and "why" questions about contemporary real-world phenomena. Case studies can be explanatory, exploratory, or descriptive Schoch, (2020). This research utilizes both explanatory and descriptive approaches, focusing on describing and explaining the specific phenomenon of some women mispronouncing certain phonemes.

As a research method, the case study approach provides a thorough and detailed examination in social research, enabling researchers to explore social units intensively.

Case studies offer several benefits, such as supplying valuable insights into relations among variables and procedures needing wider explanations and consideration, revealing features and connections that might not have been previously anticipated, and presenting data and findings useful for forming a foundational problem for planning more extensive and detailed future research Thomas, (2021).

Case studies are generally linked to a qualitative approach, a research method that generates descriptive data through written or spoken words and observable behaviors of individuals. The strength of the qualitative approach is its capacity to provide a comprehensive, dialectical perspective, which is crucial for theory development and understanding through narrative and interpretation. In this study, the case study not only sheds light on variable relationships and the explanatory process but also presents new insights, data, evidence, and findings valuable for research Takahashi & Araujo, (2020).

This research aims to describe and explain the phenomenon of the pronunciation of the phoneme /t/ and /l/ among 43 participants, who are students from two separate groups in the English Language and Culture Department UAI). Each participant was asked to pronounce words in English (*tin*, *sting*, and *bat*) and (*lap*, *slain*, and *peel*) as well as other words in Indonesian (*tahap*, *patah*, and *pahat*) and (*lapor*, *selir*, and *apel*). The first set of example words represents the phoneme /t/ in the opening, central, and final positions of words, while the subsequent set exemplifies the phoneme /l/ in the same positions. All participants were confirmed to have no speech impediments or dysarthria.

After discovering that some participants created errors in articulating the phoneme /t/ and /l/ in either English or Indonesian, interviews were conducted to understand the reasons behind their use of the apico-dental pronunciation. The research was subsequently extended with a literature review that examines differences in articulation and their connection to gender.

FINDINGS AND DISCUSSION

At UAI, the study involved 43 third-semester students aged between 18 and 21 from two classes, IG22A and IG22B. Class IG22A was composed of 22 students, including 8 males and 14 females, while Class IG22B had 21 students, with 8 males and 13 females. After these students were requested to articulate several words covering the phoneme /t/ and /l/, the findings remained as described below.

1. None of the men used the apico-dental articulation for the phoneme /t/ and /l/.
2. Among the female participants, 6 of them articulated the /t/ phoneme by an apico-dental approach at the final of words: "bat" and "pahat".
3. Of these 6 women, 3 also used the apico-dental articulation for the /t/ phoneme at the beginning of words: "tin" and "tahap".
4. Additionally, 4 females articulated the /l/ phoneme at the final of words "peel" and "apel" by apico-dental articulation.
5. Out of these 4 women who used the apico-dental /l/, 3 were also the ones who articulated /t/ by apico-dental.

In English, the /t/ phoneme is typically an apico-alveolar consonant, produced by blocking airflow with the tip of the tongue against the upper gum ridge, and this same description applies to the /t/ phoneme in Indonesian Collins & Evans, (2019); Unsiah & Yuliati, (2018). Conversely, the /l/ phoneme in both English and Indonesian is categorized as an alveolar lateral approximant. Variations in pronunciation are known to occur, and in this case, these variations were linked to gender as only female participants exhibited this pattern.

When the participants who had demonstrated different pronunciations were questioned, they initially did not recognize any errors in their pronunciation. They attributed their use of the apico-dental articulation for the phoneme /t/ and /l/ to habitual practice, expressing that they were simply accustomed to this way of speaking without any other apparent motive.

Following a correction and demonstration of the standard pronunciation methods, the participants were capable of pronouncing /t/ and /l/ according to the phonetic standards of both English and Indonesian. Some students corrected their pronunciation immediately, while others required multiple attempts.

In the fields of phonetics and phonology, individuals may often adapt their pronunciation by seeking the nearest articulatory position when they face difficulty with a specific phoneme Braver et al., (2014). For instance, if someone struggles with the apico-dental sound (θ) in English, they might use the apico-alveolar /t/ as a substitute, resulting in it sounding like the word “tree”—a common phenomenon given that Indonesian lacks this specific apico-dental phoneme. Thus, it is plausible that the incorrect pronunciations were an attempt to find an easier articulation method. However, since the phoneme /t/ and /l/ are not inherently problematic for Indonesian speakers, there may be underlying factors beyond just phonetic challenges that were not explicitly mentioned by the participants. Hidden motives behind linguistic behavior can often be explored further Berloquin, (2008).

Those hidden reasons that are not articulated directly in linguistic expressions are common. Sometimes people use language precisely to hide the true meaning of what they say in order to avoid conflict or to maintain social relationships. Others take advantage of using verbal signs clearly but with unusual prosody to convey emotions or thoughts implicitly. Meanwhile, there are people who play with pronunciation to gain attention and popularity, such artists or comedians.

Previous research has shown that basically every speech sound must be pronounced with precision in the place of articulation and its manner of articulation, so that the sound corresponds to the desired meaning in a language. However, in practice, the sound of speech often shifts from the applicable standards, either due to disabilities in the articulators of native speakers or the influence of the native language for non-native speakers Hadiyansyah, (2022); Hadiyansyah et al., (2023).

This sound shift causes the emergence of a distinctive foreign accent in the language being studied Recasens, (2020). Sound shifting by non-native (second language or L2) speakers is a topic that has attracted the attention of language researchers, and a number of theories have succeeded in explaining it scientifically. Among the theories

and empirical research related to sound shifts by non-native speakers have explained and contributed to ideas and practices in language teaching, including the following.

Phonological Transfer Theory

Phonological Transfer Theory is one of the earliest approaches to understanding sound shift. According to this theory, L2 speakers have a tendency to shift or transfer phonological rules and patterns from their L1 to their L2. This means that sounds that already existed in L1 will be easier to produce, while sounds that do not exist in L1 will undergo modification or shift, so that they are closer to sounds known to the speaker Yang & Fu, (2022). Indonesian speakers studying English often pronounce the voiceless apico-dental phoneme [θ] with the voiceless dental sound [t], or if they study Arabic the same sound is shifted to [s]. Phonological Transfer Theory concludes that in the second language learning process there is influence, knowledge and phonological skills that students already have from their mother tongue to be brought to the language they study.

Perceptual Assimilation Model

The Perceptual Assimilation Model introduced by Best, (1994) proposes that L2 speakers assimilate L2 sounds into the most similar L1 phonemic categories. This means that when a non-native speaker hears a sound in their L2 that is not present in their L1, they will interpret it as the closest sound in their L1 Shinohara, Han, & Hestvik, (2023). This often leads to difficulties in the perception and production of certain sounds in the L2. For example, the sound /v/ (as in "van") does not exist in Indonesian, so Indonesian speakers may assimilate it into /f/, which is closer to the sound present in their language. They might pronounce "van" as "fan", without any differences. This theory concludes that children who start learning L2 at an early age tend to experience fewer problems with phonetic assimilation compared to the adults.

Optimality Theory

Optimality Theory developed by Paul Smolensky and Alan Prince offers another perspective by stating that L2 speakers choose the most optimal form based on a hierarchy of constraints influenced by their L1. In this context, sound shifts occur because L2 speakers try to balance between meeting L2 phonological constraints and maintaining comfortable sound production according to their L1 Nandelenga, (2022).

OT Phonology is often viewed as a set of universally applicable constraints organized hierarchically, with distinct rankings for each language. This method involves generating all possible outputs for a given input and evaluating them to identify the most optimal one, thereby clarifying the relationship between input and output Suhery et al., (2025).

Optimality Theory offers a powerful framework for understanding and analyzing how language sounds are selected and produced by speakers based on the different hierarchies of constraints in each language. For example, the English word "seat" /si:t/ with a long vowel may be pronounced with a short vowel /sit/ by Indonesian speakers because their language does not recognize long or short vowels, so there are problems pronouncing it (Raza et al., 2025).

Automatic Selective Perception Theory

Winifred Strange developed the Automatic Selective Perception Theory which states that L2 speakers develop special perceptual mechanisms to overcome phonological differences between L1 and L2. This mechanism allows speakers to selectively focus attention on critical aspects of L2 sounds that are absent in their L1, thereby aiding in the mastery of these sounds Strange, (2011). For example, Indonesian does not pronounce the final sound in a word with double consonants at the end of its syllable, as in English "rest". L1 Indonesian speakers tend to pronounce the word with /res/. Awareness of the phonological differences between L1 and L2 allows students to pay more attention to other similar sounds.

Tongue, Teeth and Sensuality

In this study, participants were asked whether the act of sticking out the tongue was related to sexual or sensual expression, specifically questioning whether this gesture was a deliberate attempt to appear attractive. The researchers received a unanimous and smiling denial from the participants. While this reaction might reflect the participants' true intentions, it is crucial to consider broader scholarly perspectives on the symbolism of tongue gestures.

Miller & Sinanan, (2017) examined the role of gestures in digital self-representation, revealing that sticking out the tongue and other similar actions are often used in selfies on platforms like Facebook to convey a playful or flirtatious mood. This suggests that the tongue, along with the accompanying movements of the lips, can be interpreted as a gesture with sensual undertones in certain contexts.

Historically, the tongue has been a potent symbol in cultural and psychological discourse. Flügel, (1925) proposed that the tongue, when considered symbolically, has connections to sexual imagery, drawing parallels between the tongue and the male genitalia. In addition, Drachnik, (1994) explored how artistic representations have used the tongue as a symbol for sexual aggression or misconduct.

These perspectives illustrate that the tongue is more than just a physical organ; it can be a vehicle for expressing a range of emotions and intentions, including those of a sensual nature. While everyday instances of sticking out the tongue—such as to show fatigue or to remove food—are typically benign, the gesture can also be employed in a more provocative or playful manner. This is evident in specific cultural practices, such as how some transgender sex workers in Jakarta use the tongue gesture as a sign of availability for sexual services, indicating a clear link between this gesture and sexual expression in particular settings.

Apart from the tongue, what is no less sensual are the teeth Gick et al., (2019). When pronouncing /t/ and /l/ with apico-dental, obviously one can easily see the speaker's teeth. The sensuality of teeth certainly goes beyond their physical function as simply for chewing food. From a visual standpoint, teeth make a significant contribution to a person's facial aesthetics. A sweet smile with white teeth that are aligned and neat will create attraction and can be a strong non-verbal communicator, and can even increase a person's self-confidence and charm.

Numerous gestures or forms of body language carry deep meanings that might not always be recognized by the individuals who use them. For instance, Navarro and

Navarro & Karlins, (2008) suggest that the act of protruding the tongue between the teeth can be a subtle attempt to attract attention or convey sensuality, often carrying a sexual undertone.

Sensuality does not continuously manifest through overtly bodily or explicit gestures. Instead, it is often a deliberate expression that is created through various forms of communication and body language Kurniawan, (2018) . Sensuality, unlike direct expressions of sexuality, can be subtly conveyed and is not necessarily tied to explicit sexual behaviour Mayer & McHugh, (2016). In the scope of phonetics and phonology, the articulation of sounds using different speech mechanisms can be considered a type of gesture Tallerman, (2005). Consequently, individuals who extend their tongues while pronouncing the phonemes /t/ and /l/ might be influenced by a latent desire to express sensuality, though this would be a neutral expression rather than a direct sexual gesture. Further research would be needed to explore whether such expressions of sensuality can be linked to sexual intentions.

Linguistic variations between genders, particularly in phonetics and phonology, should not be viewed through a singular lens. These differences can be influenced by a variety of factors, such as class distinctions, hierarchical relationships age Labov, (1990) or group dynamics Rothermich et al., (2020). In this particular study, sensuality is an additional layer that interacts with gender-based linguistic variations. It is evident that the pronunciation of phonemes in a language is affected by complex and empirical factors rather than being solely determined by gender.

Apart from the phonetic and phonological theories above, sensuality in the articulation of language sounds is the result of a multifaceted interaction between aspects of articulation, acoustics, perception, prosody, and communication context. Valsiner, (2020) adds facial expressions and unarticulated sounds as a strategy to evoke sensuality. With the study of phonetics, researchers can better understand how certain sounds can create a sensual effect and how this perception varies among individuals and cultures.

A number of studies have explored how certain uses of language and prosody can be used to evoke or express sensual or romantic sensations. For example, in Javanese wayang puppet or folklore, women are often depicted using attractive language and intonation to express love or desire, to emphasize or create a sensual nuance in the narrative or dialogue Sulistyani, (2017).

Previous research looked at word choice and prosody (intonation, rhythm, and accentuation) to give a sensual impression Panasenکو et al., (2023). Smooth or rhythmic intonation and rhythm can add a sensual dimension to conversation or verbal expression. Soft intonations, flowing notes, or slow rhythms can create an attractive and sensual atmosphere, even inviting sexual desire. For example, when flirting, someone will slow down the rhythm of speech and add a soft tone to someone whom he or she wants to approach romantically Pickering, (2020). In addition, the use of sensory words and phrases can also activate sensual intimacy.

In the literary tradition, the use of a combination of prose and poetry or prosimetry (prosimetrum) to strengthen sensual messages is certainly commonplace and this is also the case in everyday life, whether we realize it or not, because humans are sexual

creatures—sensuality is often associated with sexuality Howe et al., (2021). Prosimetry can be an option for exploring one's own sensory or emotional experiences of the interlocutor in romantic communication, to create an intimate and even sensual atmosphere Mou, (2023).

In the context of pronouncing language sounds, sensuality can be explained as how to pronounce certain sounds to evoke feelings of intimacy, tenderness, pampering, or beauty in the minds of the interlocutor. This research certainly focuses on the phonemes /t/ and /l/ which are pronounced with apico-dental by female students. Teeth and the tip of the tongue are two organs that have an important role in sensuality in several contexts, especially in human sensory experience and communication Guhr et al., (2020). While the combination of clean lips and teeth can increase a person's physical attractiveness, the tongue has strong associations with tenderness and sensitivity in the context of physical intimacy in romantic relationships.

CONCLUSION

This study examined the articulation of the phonemes /t/ and /l/ among 43 third-semester students at UAI, aged 18-20, focusing on the gender-based phonetic variations and potential underlying reasons. The results revealed that only female participants exhibited apico-dental pronunciation of these phonemes, with no male participants showing this variation. Specifically, six women pronounced /t/ by apico-dental articulation at the final of words like "bat" and "pahat," and four pronounced /l/ similarly at the end of words like "peel" and "apel."

Despite initial unfamiliarity with the correct pronunciation, participants quickly adapted after receiving corrections, suggesting that the apico-dental articulation was due to habit rather than difficulty or tendency to show sensuality. The tendency to neutralize particular phonemes by searching for the closest place of articulation, as noted (Braver et al., 2014) supports this conclusion. However, the presence of both /t/ and /l/ phonemes in Indonesian challenges the notion of phonetic difficulty as the sole reason, indicating potential hidden motives.

However, further exploration linked tongue movement to sensuality, referencing studies by Miller & Sinanan, (2017) and that associate tongue gestures with sexual or sensual connotations. This suggests that while the participants denied any sensual intent, subconscious influences on pronunciation cannot be ruled out.

The study highlights the complex interplay between phonetic variations and gender, suggesting that linguistic expressions may carry implicit meanings. Understanding these nuances requires considering multiple factors, including social, psychological, and cultural influences. Future research should delve deeper into these aspects to uncover the intricate dynamics of gender-based linguistic variations and their broader implications. Language interactions are a cooperative endeavor, where mutual agreement is fundamental. This cooperative nature helps to avoid stereotypes and biases, such as the idea that only women express sensuality through their speech. Men may also exhibit comparable or divergent forms of sensual expression, a topic for future investigative studies

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